In the Specification:

On page 6, the paragraph spanning lines 10-14 has been amended as shown below:

Quickly and efficiently determining a hash value of a digital good is highly ~~desireable~~ desirable. In addition, doing so that one can determine perceptual similarity of the content of a group of digital goods would improve anti-piracy efforts and semantic content categorization. It can improve content-based key generation and synchronization in video signals.

On page 6, the paragraph spanning lines 15-19 has been amended as shown below:

Accordingly, what is needed is a new hashing technique. A new technique is needed to overcome the difficulties that are brought by conventional hashing techniques when they are applied to multimedia data. Under perceptually ~~unnoticable~~ unnoticeable changes, such techniques produce different hash values with high probability.

On page 9, the paragraph spanning lines 16-23 has been amended as shown below:

The following co-pending patent applications are incorporated by reference herein:

- U.S. Patent Application Serial No. 09/843,254, entitled "Recognizer of Audio-Content in Digital Signals" filed on April 24, 2001, and assigned to the Microsoft Corporation; and
- U.S. Patent Application Serial No. 09/421,986, entitled "System and Method for Hashing Digital Images" filed on October 19, 1999, now U.S. Patent No. 6,671,407 and assigned to the Microsoft Corporation.

On page 10, the paragraph spanning lines 19-22 has been amended as shown below:

At least one implementation described herein is a technique that may be combined with the techniques described in U.S. Patent Application Serial No. 09/421,986, now U.S. Patent No. 6,671,407, entitled "System and Method for Hashing Digital Signals" (incorporated by reference) to produce a unique identifier.

On page 10, the paragraph spanning lines 19-21 has been amended as shown below:

In contrast, ~~a~~ "perceptually distinct" digital goods ~~is~~ are generally the converse of "perceptually same" digital goods. This may also be called "perceptually different" or "perceptually distinguishable".

On page 16, the paragraph spanning lines 11-16 has been amended as shown below:

Given the intermediate hash value, the exemplary content similarity recognizer performs randomized (or pseudorandomized) lattice vector quantization to generate the final hash value. This final hash ~~values~~ value has the properties mentioned above (regarding uniform distribution, pairwise independence; and invariance).

On page 16, the paragraph spanning lines 16-19 has been amended as shown below:

For more details on hashing relevant to the hashing techniques implemented by the exemplary content similarity recognizer, see U.S. Patent Application Serial No. 09/421,986, now U.S. Patent No. 6,671,407, entitled "System and Method for Hashing Digital Signals" (which is incorporated herein by reference).

On page 17, the paragraph spanning lines 14-17 has been amended as shown below:

~~Segmenter~~ The segmenter 110 does not necessarily separate the segments from the signal or from each other. It does not ~~necessiarly~~ necessarily remove the segments from the signal. Instead, it defines regions or portions of the signal. Those defined regions are the segments.

On page 22, the paragraph spanning lines 15-17 has been amended as shown below:

Quantization. Apply a thresholding operation on M_4. This operation is similar to the one performed in block 220. Let M_5 be the output, such that ~~the~~ $W(M_5) \approx q$ and $ctr = ctr + 1$.

The paragraph spanning page 24, line 20 through page 25, line 3 has been amended as shown below:

At 232 of Fig. 2, after the last segment is processed, the exemplary content similarity recognizer combines the segments. It collects the multiple, pseudorandomly sized and distributed segments to generate an output that is the recognition hash value (i.e., intermediate hash value). This hash value may be a ~~simply~~ simple combination of the hash values of each segment. It may be a composite of the segments' hash values. It may be a listing of the segments' hash values. It may be a hash of the segments' hash values. It may be any other representation of the segments' hash values.

On page 25, the paragraph spanning lines 6 through 13 has been amended as shown below:

Image halftoning produces a binary version of the input image, but where perceptual quality and similarity of the output is paramount. In other words, the results of image halftoning will and ~~is~~ are intended to [[be]] perceptually approximate the original image. In contrast, output of the exemplary content similarity recognizer (or some subset thereof) is not necessarily related to the original representation. If the signal is an image, the output of the exemplary content similarity recognizer (or some subset thereof) does not necessarily look like the original. Of course, it may look like the original, but it is not a necessary requirement.

The paragraph spanning page 27, line 22 through page 28, line 9 has been amended as shown below:

Computer 902 may also include other removable/non-removable, volatile/non-volatile computer storage media. By way of example, Fig. 4 illustrates a hard disk drive 916 for reading from and writing to a non-removable, non-volatile magnetic media (not shown), a magnetic disk drive 918 for reading from and writing to a removable, non-volatile magnetic disk 920 (e.g., a "floppy disk"), and an optical disk drive 922 for reading from and/or writing to a removable, non-volatile optical disk 924 such as a CD-ROM, DVD-ROM, or other optical media. The hard disk drive 916, magnetic disk drive 918, and optical disk drive 922 are each connected to the system bus 908 by one or more data media interfaces ~~926~~ 925. Alternatively, the hard disk drive 916, magnetic disk drive 918, and optical disk drive 922 can be connected to the system bus 908 by one or more interfaces (not shown).